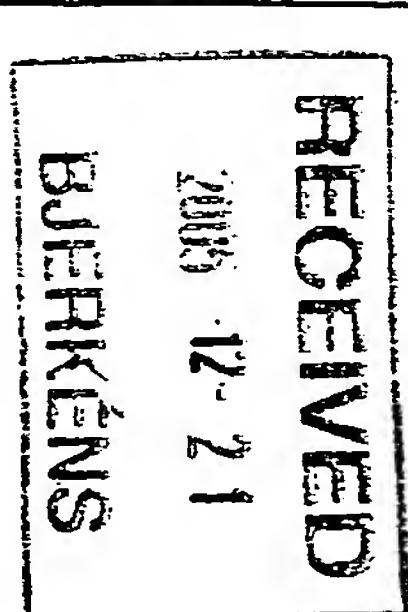


# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

Bjerkéns Patentbyrå KB  
Östermalmsgatan 58  
114 50 Stockholm  
Sverige



**PCT**

## NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Rule 71.1)

Applicant's or agent's file reference <b>55999 PCT sb</b>		Date of mailing (day/month/year) <b>19-12-2005</b>	
<b>IMPORTANT NOTIFICATION</b>			
International application No. <b>PCT/SE2005/000015</b>	International filing date (day/month/year) <b>10-01-2005</b>	Priority date (day/month/year) <b>15-01-2004</b>	
Applicant <b>Westinghouse Electric Sweden AB et al</b>			

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the *PCT Applicant's Guide*.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed invention is patentable or not" (see Also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the IPEA/ Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. 08-667 72 88	Telex 17978 PATOREG-S	Authorized officer <i>Per-Olov Hjelm</i> Telephone No. 08-782 25 00
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**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>55999PCT sb/mw</b>	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416																									
International application No. <b>PCT/SE2005/000015</b>	International filing date ( <i>day/month/year</i> ) <b>10-01-2005</b>	Priority date ( <i>day/month/year</i> ) <b>15-01-2004</b>																								
International Patent Classification (IPC) or national classification and IPC See Supplemental Box																										
Applicant <b>Westinghouse Electric Sweden AB et al</b>																										
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>4</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>			<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																								

Date of submission of the demand <b>05-07-2005</b>	Date of completion of this report <b>02-12-2005</b>
Name and mailing address of the IPEA/SE <b>Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM</b>	Authorized officer <b>Annette Riedel / JA A Telephone No. +46 8 782 25 00</b>

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.

PCT/SE2005/000015

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of: **Cover sheet**

**G21C 3/34 (2006.01)**

**G21C 21/00 (2006.01)**

**G21C 3/322 (2006.01)**

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2005/000015

## Box No. I Basis of the report

1. With regard to the language, this report is based on:

the international application in the language in which it was filed

a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

international search (Rules 12.3(a) and 23.1(b))

publication of the international application (Rule 12.4(a))

international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished

the description:

pages 1 - 17 as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19

pages\* 1 - 4 received by this Authority on 05 - 07 - 2005

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:

pages 1 - 8 as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_

the claims, Nos. \_\_\_\_\_

the drawings, sheets/figs \_\_\_\_\_

the sequence listing (*specify*): \_\_\_\_\_
any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages \_\_\_\_\_

the claims, Nos. \_\_\_\_\_

the drawings, sheets/figs \_\_\_\_\_

the sequence listing (*specify*): \_\_\_\_\_
any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2005/000015

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

## 1. Statement

Novelty (N)	Claims	<u>1-25</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-25</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-25</u>	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

The invention relates to a spacer for nuclear fuel rods. Sleeve-like cells are intended for receiving one fuel rod each. Each sleeve-like member is manufactured by bending a sheet-like material into the sleeve shape.

The following documents were cited in the International Search Report:

D1: EP 0 433 493 A1  
 D2: US 5 666 389 A1

Document D1, which is considered to represent the most relevant state of the art, discloses a spacer (6-11) that consists of a number of sleeve-like elements (12). Said elements are manufactured by bending a sheet material into sleeves (fig. 5) and joining the edges, e.g. by welding (column 3, line 44 - column 4, line 9). The subject-matter of claim 1 differs from that of D1 in that the connection portions overlap. The subject-matter of claim 1 is therefore novel (Article 33(2) PCT).

The problem to be solved by the present invention may therefore be regarded as providing such overlapping portions in a spacer sleeve according to D1. The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) as D1 provides no incitement for letting the edges overlap. By doing so, a stronger joint is achieved.

Claims 2-24 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.